

## COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

This declaration is original.

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

### QUANTUM DOT WHITE AND COLORED LIGHT-EMITTING DEVICES

the specification of which (I authorize Choate, Hall & Stewart to check one of the following, three choices, and fill in the blanks, if applicable):

  X   is attached hereto.

           was filed on            as Application Serial No.            and amended on            (if applicable).

           was filed as PCT international application No.           , on            and was amended under PCT Article 19 on            (if applicable).

I hereby state that I have reviewed and understood the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledged the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s):

Priority Claimed

<u>          </u> (Number)	<u>          </u> (Country)	<u>          </u> (Day/Month/Year/Filed)	<u>  </u> Yes <u>  </u> No
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<u>          </u> (Number)	<u>          </u> (Country)	<u>          </u> (Day/Month/Year/Filed)	<u>  </u> Yes <u>  </u> No
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I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or PCT international application(s) designating the United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

<u>09/167,795</u>	<u>10/7/98</u>	<u>pending</u>
(Application Serial No.)	(filing date)	(status-patented, pending, abandoned)

<u>                    </u>	<u>                    </u>	<u>                    </u>
(Application Serial No.)	(filing date)	(status-patented, pending, abandoned)

PCT Applications designating the United States:

<u>                    </u>	<u>                    </u>	<u>                    </u>
(PCT Appl. No.)	(U.S.S.N.)	(status-patented, pending, abandoned)

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:  
Sam Pasternack, Reg. No. 29,576; David J. Powsner, Reg. No. 31,868; Brenda Herschbach Jarrell, Reg. No. 39,223; Kevin M. Tormey, Reg. No. 41,351; and Elizabeth E. Nugent, Reg. No. 43,839.

Address all telephone calls to Elizabeth E. Nugent at telephone no. (617) 248-5000.

Address all correspondence to Elizabeth E. Nugent, Choate, Hall & Stewart, Exchange Place, 53 State Street, Boston, Massachusetts 02109-2891.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United State Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

09350956 "0" 9560560

Full name of inventor: Moungi E. Bawendi

Inventor's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Residence: 285 Beacon Street, Apt. 2B, Boston, MA 02116

Citizenship: USA

Post Office Address: Same

Full name of inventor: Jason Heine

Inventor's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Residence: 9 Upland Street, Apt. 7, Cambridge, Massachusetts 02140

Citizenship: USA

Post Office Address: Same

Full name of inventor: Klavs F. Jensen

Inventor's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Residence: 103 Outlook Drive, Lincoln, Massachusetts 01773

Citizenship: USA

Post Office Address: Same

**ASSIGNMENT**

**WHEREAS**, We, **Moungi G. Bawendi** of Boston, Massachusetts, **Jason Heine** of Cambridge, Massachusetts and **Klavs F. Jensen** of Lincoln, Massachusetts, having invented certain new and useful improvements in **QUANTUM DOT WHITE AND COLORED LIGHT-EMITTING DEVICES** for which we will make application for United States Letters Patent; and

**WHEREAS**, **MASSACHUSETTS INSTITUTE OF TECHNOLOGY** a non-profit educational institute having offices at 77 Massachusetts Avenue, Cambridge, Massachusetts, and its successors and assigns (collectively hereinafter called "the Assignee"), is desirous of acquiring my entire right, title and interest in and to the invention, and in and to the said application and any Letters Patent that may issue thereon;

**NOW THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledge, I do hereby sell assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives the full and exclusive right, title and interest in and to said invention and in and to said application and all patents which may granted therefore, and all divisions, reissues, substitutions, continuations; and I hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as my interest is concerned, to the said ASSIGNEE of my entire right, title and interest.

I also hereby sell and assign to said ASSIGNEE, its successors, assigns and legal representatives the full and exclusive rights, title and interest to the invention disclosed in said application throughout the world, including the right to file applications and obtain patents, utility models, industrial models and designs for said invention in its own name throughout the world, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, and all rights to register said invention in appropriate registries; and I further agree to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect such rights, title and interest in ASSIGNEE, its successors, assigns and legal representatives.

I hereby further agree that I will communicate to said ASSIGNEE, or to its successors, assigns and legal representative, any facts known to me respecting any improvements; and, at the expense of said ASSIGNEE, to testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, continuation-in-part, reissue and substitute applications, make all lawful oaths, and generally do everything possible to vest title in said ASSIGNEE and to aid said ASSIGNEE, its successors, assigns and legal representatives to obtain and enforce proper protection for said invention in all countries.



IN WITNESS WHEREOF, I hereto set my hand and seal at \_\_\_\_\_,  
\_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 1999.

\_\_\_\_\_  
**Moungi G. Bawendi**

STATE OF \_\_\_\_\_  
SS.  
COUNTY OF \_\_\_\_\_

Before me this \_\_\_\_\_ day of \_\_\_\_\_, 1999, personally appeared **Moungi G. Bawendi** known to me to be the person whose name of subscribed to the foregoing Assignment and acknowledged that he executed the same as his free act and deed for the purposes therein contained.

[Notary's Seal Here]

.....  
NOTARY PUBLIC  
My Commission Expires:

IN WITNESS WHEREOF, I hereto set my hand and seal at \_\_\_\_\_,  
\_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 1999.

\_\_\_\_\_  
**Jason Heine**

STATE OF \_\_\_\_\_  
SS.  
COUNTY OF \_\_\_\_\_

Before me this \_\_\_\_\_ day of \_\_\_\_\_, 1999, personally appeared **Jason Heine** known to me to be the person whose name of subscribed to the foregoing Assignment and acknowledged that he executed the same as his free act and deed for the purposes therein contained.

[Notary's Seal Here]

.....  
NOTARY PUBLIC  
My Commission Expires:

IN WITNESS WHEREOF, I hereto set my hand and seal at \_\_\_\_\_,  
\_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 1999.

\_\_\_\_\_  
**Klavs F. Jensen**

STATE OF \_\_\_\_\_.  
SS.

COUNTY OF \_\_\_\_\_.

Before me this \_\_\_\_\_ day of \_\_\_\_\_, 1999, personally appeared **Klavs F. Jensen** known to me to be the person whose name of subscribed to the foregoing Assignment and acknowledged that he executed the same as his free act and deed for the purposes therein contained.

.....  
NOTARY PUBLIC

[Notary's Seal Here]

My Commission Expires:

As a below named inventor, I hereby declare that:

My residence/post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

QUANTUM DOT WHITE AND COLORED LIGHT-EMITTING DEVICES

the specification of which is attached hereto unless the following box is checked:

( ) was filed on \_\_\_\_\_ as US Application Serial No. or PCT International Application Number \_\_\_\_\_ and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understood the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above. I acknowledge the duty to disclose all information which is material to patentability as defined in 37 CFR 1.56.

**Foreign Application(s) and/or Claim of Foreign Priority**

I hereby claim foreign priority benefits under Title 35, United States Code Section 119 of any foreign application(s) for patent or inventor(s) certificate listed below and have also identified below any foreign application for patent or inventor(s) certificate having a filing date before that of the application on which priority is claimed:

COUNTRY	APPLICATION NUMBER	DATE FILED	PRIORITY CLAIMED UNDER 35 U.S.C. 119
			YES: _____ NO: _____
			YES: _____ NO: _____

**Provisional Application**

I hereby claim the benefit under Title 35, United States Code Section 119(e) of any United States provisional application(s) listed below:

APPLICATION SERIAL NUMBER	FILING DATE

**U. S. Priority Claim**

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code Section 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, Section 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

APPLICATION SERIAL NUMBER	FILING DATE	STATUS (patented/pending/abandoned)
09/167,795	10/7/98	pending

**POWER OF ATTORNEY:**

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) listed below to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

Send Correspondence to:	Direct Telephone Calls To:
IP Administration	Elizabeth E. Nugent
Legal Department 208N	(617) 248-5000
HEWLETT-PACKARD COMPANY	
P.O. Box 110301	
Palo Alto, California 94303-0890	

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of Inventor: Jeffrey N. Miller Citizenship: USA  
Residence: 26699 Snell Lane, Los Altos Hills, California 94022  
Post Office Address: Same

Inventor's Signature \_\_\_\_\_

Date \_\_\_\_\_

Full Name of # 2 joint inventor: Ronald L. Moon Citizenship: USA  
Residence: 152 Selby Lane, Atherton, California 94027  
Post Office Address: Same

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Full Name of # 3 joint inventor: \_\_\_\_\_ Citizenship: \_\_\_\_\_  
Residence: \_\_\_\_\_  
Post Office Address: \_\_\_\_\_

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Full Name of # 4 joint inventor: \_\_\_\_\_ Citizenship: \_\_\_\_\_  
Residence: \_\_\_\_\_  
Post Office Address: \_\_\_\_\_

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Full Name of # 5 joint inventor: \_\_\_\_\_ Citizenship: \_\_\_\_\_  
Residence: \_\_\_\_\_  
Post Office Address: \_\_\_\_\_

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Full Name of # 6 joint inventor: \_\_\_\_\_ Citizenship: \_\_\_\_\_  
Residence: \_\_\_\_\_  
Post Office Address: \_\_\_\_\_

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Full Name of # 7 joint inventor: \_\_\_\_\_ Citizenship: \_\_\_\_\_  
Residence: \_\_\_\_\_  
Post Office Address: \_\_\_\_\_

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Full Name of # 8 joint inventor: \_\_\_\_\_ Citizenship: \_\_\_\_\_  
Residence: \_\_\_\_\_  
Post Office Address: \_\_\_\_\_

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

09350956-070999



When recorded please return to:

HEWLETT-PACKARD COMPANY  
Legal Department, 20BN  
P. O. Box 10301  
Palo Alto, California 94303-0890

## PATENT APPLICATION

**ATTORNEY DOCKET NO. 0492611-0286**

## ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each) have agreed and hereby agree to assign to HEWLETT-PACKARD COMPANY, a Delaware corporation having its principal place of business in Palo Alto, California, (hereinafter HP), in furtherance of my/our obligations to HP, and do hereby assign and transfer to HP, its successors and assigns, the entire right, title and interest, including the right of priority, in, to and under an application for Letters Patent of the United States entitled:

**Jeffrey N. Miller and Ronald L. Moon**

Filing date: \_\_\_\_\_ Serial No.: \_\_\_\_\_

and the invention(s) and improvement(s) set forth therein, and any and all continuations, continuations-in-part (C-I-P's), divisionals, and renewals of and substitutes for said application for said Letters Patent, and any and all Letters Patent of the United States and of countries foreign thereto which may be granted thereon or therefor; and any reissues, or reexaminations, or extensions of said Letters Patent.

I/we additionally authorize HP to file applications in my/our name for Letters Patent in any country, to be held and enjoyed by HP, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by me/us had this assignment, and transfer not been made;

AND I/we hereby covenant that I/we have full right to convey the entire interest herein assigned, and that I/we have not executed and will not execute any agreement in conflict herewith, and I/we further covenant and agree that I/we will, each time a request is made, and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said invention(s) or improvement(s), said application and said Letters Patent, to HP, its successors, assigns, nominees or legal representatives, and I/we agree to communicate to HP, or to its nominee, all known facts respecting said invention(s) or improvement(s), said application and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers, to execute all disclaimers and divisionals, continuations, C-I-P's, reissue and foreign applications, to make all rightful oaths and declarations, and generally to do everything possible to aid HP, its successors, assigns, nominees and legal representatives to obtain and enforce, for its or their own benefit, proper patent protection for said invention(s) or improvement(s) in any and all countries provided the expenses which may be incurred by me/us in lending such cooperation and assistance are paid by HP;

AND I/we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue to HP, as assignee of the entire right, title and interest, any and all Letters Patent for said invention(s) or improvement(s), including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

I/we further authorize and direct HP attorneys to insert the serial number and filing date of said application now identified by the attorney docket number and title set forth above as soon as the same shall have been made known to them by the United States Patent and Trademark Office.

IN WITNESS WHEREOF, I/we hereunto set my/our hand(s) and seal(s):

Inventor's Signature (Seal) \_\_\_\_\_ Date Assignment Signed: \_\_\_\_\_

Inventor's Typed Name: **Jeffrey N. Miller** Date Application Signed: \_\_\_\_\_

State of \_\_\_\_\_ )  
 ) ss.:  
County of \_\_\_\_\_ )

Before me this \_\_\_\_ day of \_\_\_\_\_, personally appeared Jeffrey N. Miller who is personally known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed.

Notary Public

**My commission expires:**

09/350956  
07/09/99

When recorded please return to:

HEWLETT-PACKARD COMPANY  
Legal Department, 20BN  
P. O. Box 10301  
Palo Alto, California 94303-0890

PATENT APPLICATION

ATTORNEY DOCKET NO. 0492611-0286

ASSIGNMENT OF PATENT APPLICATION (cont.)

IN WITNESS WHEREOF, I we hereunto set my/our hand(s) and seal(s):

\_\_\_\_\_  
Inventor's Signature (Seal) Date Assignment Signed: \_\_\_\_\_

Inventor's Typed Name: Ronald L. Moon Date Application Signed: \_\_\_\_\_

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.:  
\_\_\_\_\_ )

Before me this \_\_\_\_ day of \_\_\_\_\_, personally appeared Ronald L. Moon who is personally known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed.

\_\_\_\_\_  
Notary Public  
My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Inventor's Signature (Seal) Date Assignment Signed: \_\_\_\_\_

Inventor's Typed Name: \_\_\_\_\_ Date Application Signed: \_\_\_\_\_

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.:  
\_\_\_\_\_ )

Before me this \_\_\_\_ day of \_\_\_\_\_, personally appeared \_\_\_\_\_ who is personally known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed.

\_\_\_\_\_  
Notary Public  
My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Inventor's Signature (Seal) Date Assignment Signed: \_\_\_\_\_

Inventor's Typed Name: \_\_\_\_\_ Date Application Signed: \_\_\_\_\_

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.:  
\_\_\_\_\_ )

Before me this \_\_\_\_ day of \_\_\_\_\_, personally appeared \_\_\_\_\_ who is personally known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed.

\_\_\_\_\_  
Notary Public  
My commission expires: \_\_\_\_\_